

VDI

3rd International VDI Conference

# Metals and Minerals Recovery from IBA

November 7-8, 2018, Dusseldorf, Germany

- Professional International Knowledge Transfer and Exchange between: Italy, Finland, USA, The Netherlands, Belgium, England, The Switzerland and many more
- Endprocessing of non-Ferrous Fractions from IBA
- Increased Value from fine (0-4 mm) Bottom Ash by Selective Comminution
- Sorting and upgrade of Incinerator Bottom Ash
- The Benefits of an Integrated Dry Process for Metal Recovery out of IBA
- Thermo-Recycling – Implementing the new Recycling Concept to effectively Recovery Metals from IBA

Meet international Experts from:



An event organized by VDI Wissensforum GmbH

[www.vdi-international.com/06K0925018](http://www.vdi-international.com/06K0925018)



09:00 Registration & welcome coffee

**10:00 Chair's welcome and opening address**

**Prof. Dr.-Ing. Rüdiger Deike**, Institute of Metal Engineering, University of Duisburg-Essen, Duisburg, Germany

**I. Legislation and Implementation in Key Countries**

**10:10 Endprocessing of non-ferrous Fractions from IBA**

- Sampling and evaluation
- Processing and multi-metal recovery chain
- Products and recovery rates
- Legal aspects and sustainability

**Andreas Nolte**, Integrated Managementsystems, Security&Risk, Public Recycling Affairs, Aurubis AG, Germany

**10:50 MSWI BA Utilization in Finland**

- New act for utilization of BA in civil engineering
- Experiences from field of utilization
- Use of BA in concrete products
- Advantages and challenges in utilization of BA

**Riina Rantsi**, Liiketoimintajohtaja, Chief Operating Officer, Eriytisjate, Finland

11:30 ☕ Networking & coffee break

**II. Processing of Incinerator Bottom Ash (IBA)**

**12:00 Case-Study for Processing and Application of fine MWIA: Increased Value from fine (0-4 mm) Bottom Ash by Selective Comminution**

- How does the Mill process fit to the standard MWIA-Process
- Combination of dry and wet processing of the mill reject product to generate clean ferrous, non-ferrous and mineral product
- Potential of binding behavior of fine mineral product by modification of chemical and mineralogical composition - Alternative for dumping/dump construction material

**Dr. Andreas Jungmann**, Director, CALA Aufbereitungstechnik GmbH & Co. KG, Germany, Co-Author: Frank Dardemann, Sales, Loesche GmbH, Germany

**12:40 Sorting and Upgrade of Incinerator Bottom Ash**

- Recovery of ferrous and non-ferrous metals from IBA
- Sensor based separation of non-ferrous metals and high grade materials
- Benefit and outlook for new fractions and sorting tasks

**Jörg Schunicht**, Product Management & Key Account, Steinert GmbH, Germany

13:20 🍷 Lunch

**14:50 Improved Metal and Mineral Recovery by High Voltage Pulse Treatment**

- Process principle and theory
- Results in comparison to other processes
- Example of plant in operation

**Frédéric von der Weid**, CEO, Selfrag AG, Kerzers, Switzerland

**15:30 The Benefits of an integrated Dry Process for Metal Recovery out of IBA**

- Overview of the integrated dry process from IBA to high grade non-ferrous metal products
- A profitable process to recover metals from IBA > 0,5 mm
- Quality and composition of the non ferrous metal products

**Ivan Zuest**, Head of Engineer, Engineering, DHZ AG, Switzerland

16:10 ☕ Networking & coffee break

**16:40 Klondike IBA? - Resource Management and Ash to Cash Strategies (more cradle to cradle = more value to profit)**

- Stainless steel & metal sorting from IBA
- Non-ferrous metal refining concept for 0-30 mm
- Innovative processing concept for IBA fine and coarse

**Christian Wagner**, Freelance Recycling Services, IBA client IMRO Maschinenbau GmbH, Germany

17:20 End of conference day one



**Get-together**

At the end of the first conference day we kindly invite you to use the relaxed and informal atmosphere for in-depth conversations with other participants and speakers.

**09:00 Thermo-Recycling – Implementing the new Recycling Concept to effectively Recovery Metals from IBA**

- Thermo-Recycling as an important part of the urban mining strategy
- The foundation ZAR: 8 years experiences of ThermoRe®-Technology development
- Performance of the new full size IBA-recycling plant in Hinwil

**Dr. Dipl.-Ing. Leo Morf**, Chair of technical advisory board ZAR, Division Thermal waste treatment plants, AWEL, Canton Zurich, Switzerland

**09:40 Vertical Integration of non-ferrous or total Ash Processing System**

- Thought process for internalization
- Commodity evaluation value enhancement
- Future opportunities

**Steven J. Bossotti, P.E.**, Senior Vice President, Covanta Metals Management, Covanta, USA

**10:20 Incinerator Bottom Ash (IBA) Processing and Conversion into reusable Construction Materials**

- More than 20 years' experience in placing IBA aggregate in construction
- Responsible use of recovered mineral aggregates
- Technology choice dependent on input ash quality versus end quality needs
- Portfolio of available IBA cleaning technology (dry & wet)

**Rogier van de Weijer**, International Business Development Manager, Inashco B.V., The Netherlands

11:00 ☕ Networking & coffee break

**11:30 Mining IBA for (precious) Metals**

- Different yields between dry and wet treatment
- Stainless Steel optimization
- HNF in various output streams
- HNF from sand using density separation

**Jan-Peter Born**, Manager Business Ontwikkeling Energie, HVC Group, The Netherlands

**III. Recovery of Metals from IBA, further Processing and Application**

**12:10 Measuring the Quantity and Quality of the recycled IBA Metals – with a Focus on Aluminium**

- The EU Commission proposal for measuring the recycled IBA metals and the need for the EU Member States to adjust their reporting
- How the aluminium remelting and refining companies deal with the intake of aluminium recovered from IBA
- The long-term perspective for the various metal recycling options

**Maarten G. Labberton**, Director Packaging Group, European Aluminium, Belgium

12:50 🍷 Lunch

**13:50 Incinerator Bottom Ashes and EU Regulation: Quo Vadis?**

- The incorporation of metals from incinerator bottom ashes (IBAs) in the EU's recycling targets
- New rules to prevent and control emissions from the treatment of slags and/or bottom ashes as part of the BREF process
- The updated definition and description of the waste ecotoxic property 'HP 14'
- Opportunities to fund related research and innovation projects

**Alexis Thuau**, Policy Officer, ESWET – European Suppliers of Waste-to-Energy Technology aisbl, Belgium

**14:30 Improved Utilization of the Fine Fraction (< 4 mm) of IBA using Eddy Current Separation**

- Overview of the performance of the mechanical conditioning
- Introduction of the innovative approach using eddy current separation
- Quality and composition of the resulting fractions

**Dr. Carsten Gellermann**, Head of Division Secondary Raw Materials, Fraunhofer IWKS, Germany

15:10 ☕ Networking & coffee break

**IV. Minerals Fraction: Application and Further Processing**

**15:40 Officina Dell'Ambiente spa: An European Example of circular Economy**

- Legislative European context about end of waste
- Transposition of the European legislation in Italy
- Applications of Matrix – cement, bricks, concrete, bituminous conglomerates
- Circular economy: end-of-life of construction materials
- Credentials and Certifications

**Luca Zammarian**, Operational Manager, Process R&D Department, Officina Dell'Ambiente, Italy

**16:20 Influence of the Water Content on Screening and Sorting of IBA**

- Results of the research project KLaRo
- Screening of dried IBA, dried by belt dryer
- Wet screening of IBA with reduced amount of water
- Eddy current separation with dried and wet IBA

**Dennis Wegkamp M.Sc.**, Process Engineer, pbo Ingenieursgesellschaft mbH, Germany

**17:00 Metals in the fine Fraction of Bottom Ash**

- Metal behaviour at high temperatures in WtE
- Structure and composition of metals
- Metal determination using metallographic methods

**Prof. Dr.-Ing. Rüdiger Deike**, Institute of Metal Engineering, University of Duisburg-Essen, Duisburg, Germany

17:40 Conference chair's closing remarks

17:50 End of conference

# Life cycle assessment (LCA) and end-of-waste evaluation of Metals and Minerals from waste

## Workshop Chair:

Dipl.-Ing. Holger Alwast, Alwast Consulting, Berlin

Dipl.-Ing. Reinhard Schu, EcoEnergy Gesellschaft für Energie- und Umwelttechnik mbH, Göttingen

## Date and Venue:

November 06, 2018  
Dusseldorf, Germany

## Time:

10:00-17:00

## Content:

LCA was invented in Switzerland in 1984 and used for the first time to compare municipal solid waste treatment systems in the project "IP Abfall" 1993 to 2002 for the assessment of the production of Energy, Metals and Minerals from Waste.

Since then, the method has evolved and is now one of the standard assessment tools to compare processes and products. It is also a tool to apply life cycle thinking in the implementation of the EU's thematic strategy on the sustainable use of natural resources and the thematic strategy on prevention and recycling of waste under the new EU-Circular-economy-package. In the workshop, the methodology of LCA is learned and applied to products from waste. In addition, the steps for obtaining an end-of-waste status are learned and applied.

- Introduction
- Life Cycle Assessment applied to waste management, end-of-waste status, Example: Swiss "IP Abfall"
- Overview: Technology W-t-E/ MBT with balances, products, qualities, process, risks, state of the art
- Impact of EU-Circular-economy-package (May 2018): Requirements for separate collection, electronic scrap, specifications and development Plastic recycling, determination of sample composition of waste for LCA
- Practical exercise LCA
- Exercise LCA 2, End-Of-Waste
- Evaluation of results and Discussion



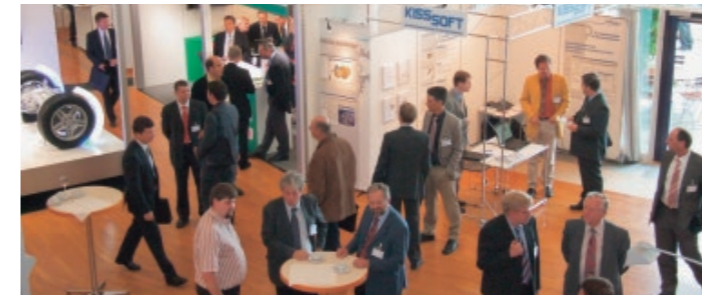
Metals and Minerals Recovery from IBA

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### Isabella Busch

Project Consultant  
Exhibitions & Sponsoring  
Phone: +49 211 6214-592  
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## Become a speaker

### BECOME A SPEAKER

Become a speaker at our international VDI Environmental Conferences. Make yourself known in the industry and discuss best practice examples with other international experts. We are looking for speakers on: Corrosion in waste to energy plants, Recovery of metals and minerals from ash, Alloys in power plant technology, Optimization of combustion and boilers, Recovery of metals and minerals from IBA, Waste to energy, Processing of the metal fraction, Processing and application of the mineral fraction, Sorting technologies, Metal price development

Please submit your topic to:  
Nina Heigl  
Product Manager  
Phone: +49 211 6214 - 677  
Email: Heigl@vdi.de

# Registration

Conference by VDI Wissensforum GmbH | [www.vdi-international.com/06K0925018](http://www.vdi-international.com/06K0925018) | Phone +49 211 6214-201 | Fax +49 211 6214-154

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### Conference venue

Courtyard by Marriott Düsseldorf Seestern  
Am Seestern 16  
40547 Dusseldorf, Germany  
Phone: +49 211/5959-59



You will find more hotels close to the venue at [www.vdi-wissensforum.de/hrs](http://www.vdi-wissensforum.de/hrs)

**Hotel room reservation:** A limited number of rooms has been reserved for the benefit of the conference participants at the Courtyard by Marriott Düsseldorf Seestern. Please refer to "VDI Conference". For more hotels: [www.vdi-wissensforum.de/hrs](http://www.vdi-wissensforum.de/hrs)

**VDI Wissensforum service package:** The conference package includes the conference documents (online), beverages during breaks, lunch and the get together on November 7, 2018.

**Conference attendance conditions and terms:** By way of your registration you accept the conference attendance conditions and terms of VDI Wissensforum GmbH as binding. Any cancellation of your registration must be made in writing. We will charge you only an administrative fee of € 50.00 plus Dutch VAT if you cancel your registration earlier than 14 days ahead of the conference date. Any cancellation that reaches us after this deadline will entail the conference attendance fee as stated in our invoice to be charged in full. The date of the post office stamp of your written cancellation will be the decisive criterion. In that case, we will gladly mail you the conference documents on request. Subject to agreement, you may name a substitute participant. Individual parts and sections of conferences and seminars cannot be booked. You will be informed without delay if an event has to be cancelled for unforeseeable reasons. In that instance, you will be entitled only to a refund of your conference attendance fee if already paid. We reserve the right to exchange speakers and/or change the program sequence in exceptional cases. In any case, the liability of VDI Wissensforum GmbH is restricted exclusively to the conference attendance fee.

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Yes, I will participate as follows:

**Participation Fee + VAT**

**VDI Conference 07.-08.11.2018**  
(06K0925018) € 1690

and/or

**Workshop 06.11.2018**  
(06ST901001) € 850

and/or

**Package Price** (Please tick the boxes)

(Conference + 1 Workshop) € 2130

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